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ABSTRACT

To assist educators in fostering resilience among children, this paper offers information that will help transform the picture of children at risk to a vision of educationally resilient students who can overcome obstacles. Researchers have offered many definitions of resilience, but all have stressed the capacity of the individual to overcome personal vulnerabilities and environmental adversities. Two of the most salient characteristics of resilient children are a high level of engagement and a sense of personal agency. Just as some personality traits act as protective factors, so do some features of families, communities, and schools. This booklet explores these features, beginning with parent characteristics that foster resilience. After the family, peers are the most important source of support, providing children and adolescents with a sense of being cared for and valued. Communities with well-developed social networks and consistent social and cultural norms also support resilience. Schools have a major role to play in promoting resilience, and a number of strategies to do so are discussed. Teacher attitudes and expectations are critical, and these must be combined with powerful, research-based instructional practices that facilitate student learning. Responding to student diversity promotes resilience, as does teaching students strategies for learning. The roles of curriculum, programs and reforms that build resilience, and initiatives with a direct influence on student learning are discussed. Children's educational resilience cannot be created merely by a set of activities or strategies, but it can be enhanced by teachers' adopting a new vision of their students as individuals who can make choices, acquire knowledge and skills, and achieve a fulfilling life. (Contains 1 figure, 2 tables, and 19 references.) (SLD)

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Laboratory for Student Success

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Educational Resilience

Margaret C. Wang, Geneva D. Haertel, and Herbert J. Walberg

The media paint a bleak picture of the prospects for children and youth in many U.S. schools and communities. The number of children at risk of school failure because of poverty, illness, divorce, drug and alcohol abuse, frequent relocations, and other adverse circumstances is increasing. Teachers and others who work with young people face new challenges as they try to meet the needs of students whose lifestyles and linguistic, cultural, and economic backgrounds are marginalized by mainstream society. Though some teachers may feel these problems are beyond them, research points to educators' actions that can alleviate such problems by fostering educational resilience-the capacity of students to attain academic and social success in school despite exposure to personal and environmental adversities.

To assist educators in fostering resilience, this publication provides information that will help transform a hopeless picture of students at risk into a vision of educationally resilient students who are capable of overcoming adversities. It describes the roles of teachers and other educators in promoting educational resilience and shares heartening findings that many children demonstrate remarkable achievement despite conditions that put them at risk of failure.

When Schools Shortchange Children

Children at risk of school failure can be found in every classroom. They include students who cannot understand the language of instruction, who are hungry, who live in shelters, who are alienated by the cultural norms of schools, and who have greater-than-usual instructional needs due to physical and psychological disabilities. Many of these children and youth at risk of school failure are often ignored, while others suffer the humiliation of labels such as retarded, learning disabled, socially and/or emotionally disturbed, educationally deficient, or culturally disadvantaged (Wang, 1996).

Many schools have segregated these students using tracking and ability grouping, opting for a separate system of special classes, resource rooms, and transition classes. Too often instruction in these classes focuses on basic skills and remedial content rather than on comprehension, problem solving, and critical thinking. Consequently, students are inadvertently denied access to the high expectations, rich content, and instructional strategies known to promote achievement. Research on children and youth at risk reveals that those enrolled in educationally segregated programs are unlikely to attain educational success (Baker, Wang, & Walberg, 1994).

Schools and school personnel are often blamed for the low achievement of children in adverse circumstances. Teachers feel understandably overwhelmed by the complex web of problems facing students in many U.S. schools. In an effort to help teachers face these challenges, educational researchers are identifying protective factors that promote healthy development and learning among children and youth in adverse circumstances. They are learning how families, teachers, schools, and communities can foster resilience so youngsters facing adversity can fulfill their hopes and dreams and benefit all of society in the process (Wang & Gordon, 1994).

What We Know About Resilience

Resilience is not a new phenomenon. Most of us know someone who overcame difficult or traumatic circumstances as a young person and grew up to become a healthy, educated, successful adult. Film and literature are full of stories that celebrate the survival of individuals who overcome adversity and succeed against all odds. Filmgoers recognize the educational resilience demonstrated by the Latino students portrayed in the film *Stand and Deliver*, while many readers are familiar with the invincibility displayed by Maya Angelou in her autobiography *I Know Why the Caged Bird Sings*.

Although researchers have offered numerous definitions of resilience in the past 20 years, they have all stressed the capacity of individuals to overcome personal vulnerabilities and environmental adversities effectively or the ability to thrive physically and psychologically despite adverse circumstances present in infants, children, youth, and adults. Researchers have studied resilience in children contending with a variety of personal and family problems such as divorce, highly stressed fathers and mothers, drug addiction, violence, early parental death, poverty, and histories of physical and mental illnesses. These researchers identified risks, personal vulnerabilities, competencies, and protective factors; they investigated the origins of resilience and found intellectual, emotional, physical, and environmental influences important for healthy development.

Resilient children have abilities and adaptive characteristics that enable them to develop into healthy adults (Wang, Haertel, & Walberg, 1994). Verbal fluency, a sense of competence, and good problem-solving skills characterize resilient children. Resilient children also exhibit high self-esteem, self-control, malleability, even temper, and openness to new experiences. Caregivers find these characteristics attractive, which prompts them to provide positive comments to the children, thereby further promoting their resilience. Resilient children also benefit from their well-defined autonomy, interpersonal skills, and "adaptive distancing," the ability to screen out or remove themselves from conditions that are potentially negative. Resilient children are resourceful and flexible; they can plan, change their environment, and alter their lives in successful ways. They set goals, maintain healthy expectations, and have a clear sense of purpose. An engaging sense of humor deflects some of their potential confrontations and other difficulties.

Two of the most salient characteristics of resilient children are their high level of engagement and sense of "personal agency." Resilient children engage in many activities and believe that they themselves determine their lives. They vigorously further their own

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development and learning by selecting relationships and environments that support their growth. In school, for example, resilient children choose academic programs, activities, and assignments that enhance their skills, extend their experiences, and increase their opportunities for learning. They elicit their teachers' and peers' support and protection and receive attention even under adverse circumstances.

Student Diversity and Poverty

Resilient students come from a broad sweep of conditions which include far larger numbers of non-resilient students. These conditions include special categories of race, ethnicity, socioeconomic status, English proficiency, handicapping conditions, lifestyles, and family configurations. Poverty, however, is the most pervasive condition-partly because it is a cause of poor school achievement in itself and partly because it overlaps with the other categories.

Census data from the 1990s show the plight of children and families in poverty. Impoverished neighborhoods, particularly those in our nation's inner-cities and rural communities, are threatened by a set of modern morbidities that includes limited resources, lack of employment opportunities, disorderly and stressful environments, poor health care, children born by children, highly fragmented patterns of human services and widespread academic failure (Wang & Gordon, 1994). Inequality in the life chances of children growing up in different socioeconomic environments is clearly evident.

Beginning in the 1960s, social theorists stirred the nation's conscience concerning the dire circumstances surrounding the poor. Educational theorists and researchers offered ideas to guide teachers in developing instructional strategies to lift the academic achievement of students from low-income families. In the 1960s, cultural deprivation was the dominant view. In examining the relationship between social classes, social scientists labeled poor children and their families as "disadvantaged," "deprived," and "underprivileged." Children from families of low socioeconomic status were provided with increasing opportunities for achieving, but the gap

between the socialization experiences in homes and communities and those in school continued to be a barrier to academic success-an added risk to the multiple co-occurring risks facing many of the children from economically disadvantaged homes.

By the 1970s, the cultural deprivation explanation was eclipsed by the cultural difference paradigm. This perspective explained the poor academic performance of students from low-income homes as a result of a conflict between the cultures of low-income, ethnic minority groups and the school culture. The cultural difference view focused more on learning and teaching styles and the role of language.

Since the late 1980s, the "at risk" view has emerged. It refers to children who differ in many ways and can be applied to any group who is experiencing adversities that impede their academic and later life success. These three views-cultural deprivation, cultural difference, and at risk-have generated many studies focused on improving the school performance of low-income, minority children and youth.

Studies have been conducted that examine the influence of poverty, educational disadvantage and family environment on cognitive ability, language development, school achievement, drug use, criminal activity, and employment. Programs such as Head Start, Title I, and bilingual education were designed to supplement the education of the poor and low-achieving. Ideally, they are to provide experiences and skills for children in poverty to move into the "school success flow," and subsequently become economically secure members of mainstream society.

Children in these programs, although largely white and poor, include many minority children who are disproportionately poor. While these programs sometimes further academic achievement of children in poverty and children of color in the early grades, the results often fade over time. In addition, the pullout and separate instructional settings that are frequently employed in categorical programs segregate children with special needs from the more enriched

school setting available to children not placed in categorical programs. Categorical programs segregate minority children who are often linguistically diverse and economically disadvantaged. Thus, Title I, which provides reading and mathematics supplementary instruction to children from economically disadvantaged circumstances, as well as other categorical programs have done little to increase social and academic integration. This exemplifies educational segregation via the so-called "second systems" programs (Wang & Reynolds, 1995).

The socioeconomic contexts of schooling play an important role in differences in educational attainment and the type of resources that are available in creating learning situations that promote school success. At the National Center on Education in the Inner Cities (CEIC), Yancey and Saporito (1995) found that economic segregation tends to have greater impact on student learning than racial segregation in schools (Yancey & Saporito, 1995). This finding has major implications for policy development and improvement of practice. In fact, it has served as a basis for systemic reform planning by the School District of Philadelphia.

Yancey and Saporito's study on racial and economic segregation and educational outcomes points to the need for attention to the interactive and interdependent nature of policy implementation. School systems are systemic-change in one element is likely to reverberate throughout the system. Furthermore, policy interventions that focus on relatively narrow outcomes may have unanticipated consequences. Efforts toward racial integration in schools are a case in point. Although well-intentioned, such efforts apparently have resulted in greater racial and socioeconomic isolation in the makeup of urban schools (Yancey & Saporito, 1995).

Protective Factors that Promote Resilience

Studies of resilience demonstrate that children differ in their capacity to exploit the positive features of their environment and not succumb to the threats and challenges of their lives. Some are much more successful than others. Attributes of children's personalities, temperaments, and abilities contribute to their capacity to exploit their environment. These

attributes act as protective factors, which buffer adversities and reduce negative consequences of stressful life events, thereby fostering resilience (Masten, Best, & Garmezy, 1990).

Just as some personality traits act as protective factors, so do some features of families, communities, and schools. Families holding high educational aspirations for their children, communities providing low-cost transportation, and schools offering advanced courses in several subject areas are examples of such features that reduce the effects of adversities. The remainder of this booklet examines features of the family, peer group, community, and school that promote educational resilience.

Wang, Haertel, and Walberg (1994) defined educational resilience as "success in school despite personal vulnerabilities and adversities brought about by early and ongoing environmental conditions and experiences" (p. 6). Educational research has demonstrated that features of homes, schools, peer groups, and communities promote the development of beliefs and behaviors in children and youth resulting in positive educational outcomes and educational resilience. By identifying and implementing those features that act as protective factors, educational environments can be designed to be resilience promoting.

Figure 1 depicts the four contexts and the adversities that place children at risk of school failure. Vulnerabilities and adversities may place children at risk, but their negative impact can be mitigated by the presence of protective factors within these contexts that safeguard children and their families. Table 1 provides an illustrative list of protective factors that operate within each of the four contexts.

A one-to-one correspondence between a particular adversity and a protective factor that mitigates its effect is neither possible nor necessarily desirable. Although an adversity such as malnutrition can be eliminated by a single protective factor-proper nutrition-such simplicity is generally not the case. We may not find it possible, for example, to determine which of several

protective factors, such as a caring teacher, a close-knit peer group, or participation in a cooperative learning experience, ameliorate a teenager's sense of estrangement from school.

Several protective factors, moreover, may work together to mitigate a particular adversity, and a single protective factor can mitigate against several adversities. A caring teacher, for example, can enhance student learning, create a feeling of belonging, and serve as a role model for career choice. Educational success of children and youth, as well as later life accomplishments, depends upon interlinked developments over time that increase the likelihood of successful adaptation. These developments may involve several contexts. For example, attendance in preschool accompanied by support from families for schooling may increase the likelihood of high school graduation among children from impoverished homes and communities. Table 1 presents protective factors clustered by focus within each of the four contexts.

Family

Families can actively foster educational resilience within and outside the home. Children who experience positive child-parent relationships, family warmth and cohesion, and an absence of discord in their homes are more resilient and protected against adversity in childhood and later life. They also benefit from consistent discipline and rules in the home, and from fully participating in family life through parental encouragement and expectations.

Since families are the child's first protective agents, they are logical starting points for analyzing resilience development. Masten et al. (1990) noted that parents nurture mastery motivation and self-esteem as well as physical growth. Parents provide information, learning opportunities, behavioral models, and connections to other resources. When these transactional protective processes are absent or are severely limited for prolonged periods, a child may be significantly handicapped in subsequent adaptation by low self-esteem, inadequate information

or social know-how, a disinclination to learn or interact with the world, and a distrust of people as resources.

Among parent characteristics that promote resilience development are:

- being caring and creating a structured and supportive family life;
- holding high academic, moral, and social expectations for children's behavior;
- encouraging participation in the life of the family.

Most resilient children appear to have at least one strong, enduring relationship with an adult (though not always a parent). Receiving care and affection from adults appears to be critical throughout childhood and adolescence, but particularly during the first year of life. Protective factors mitigate adversities in the family context that reduce the quality of life (see Figure 1 and Table 1).

Research suggests that secure childhood attachments to parents or other adults protect against adversity later in life. Masten and others (1990) showed that children whose families had a history of marital instability were more often rated as disruptive by peers and teachers. Positive, intimate relationships enhance the child's self-concept and sense of social worth. Many children, however, are deprived of such relationships and are undoubtedly harmed.

Family mobility can also harm children, especially those considered to be at risk. Frequent relocations by a child's family is a serious and pervasive risk factor for student learning among poor and minority children. When children move from a community of lower socioeconomic status to one of higher socioeconomic status, they often suffer grade retardation which forecasts further retardation, poor achievement, and dropping out.

Family characteristics are an important differentiating factor between low- and high-achieving African-American students. The National Assessment of Educational Progress (NAEP) data suggest that higher achieving African-American students tend to come from higher social classes and have working mothers. In addition, these students are twice as likely as their

low-achieving counterparts to attend Catholic schools and to reside in urban areas (Lee, Winfield, & Wilson, 1991).

Many of the problems students experience cannot be addressed without the direct involvement of the family. Activities, such as assigned chores, caring for brothers and sisters, and the contribution of part-time work in supporting the family show children that they can work with their families to improve their life circumstances, which leads to enhanced self-esteem and fosters resilience.

Family involvement in children's education also enhances children's school performance. The active participation of family members in children's educational experiences improves their achievement, increases school attendance, and decreases dropout rates, delinquency, and teenage pregnancy rates. Intervention programs designed to involve family members are significantly more effective than programs aimed exclusively at students. Parents who participate in family involvement programs generally feel better about themselves and are more likely to enroll in courses that advance their own education (Flaxman & Inger, 1991). By introducing parental involvement programs in low-performing schools in poor neighborhoods, Comer and his associates observed substantial achievement gains over several years. These results are attributed to management teams involving parents, parent-developed workshops, parental involvement in tutoring programs for children, and parents assisting teachers in classroom activities (Comer, 1986).

A recent theory of family-school connections identifies four important "microsystems" that influence children-families, peer groups, schools, and neighborhoods. The degree of psychological overlap among these microsystems represents the extent to which they share constructive values, goals, and understandings of the social and cultural processes governing everyday life. The greater the overlap among these systems, the more common their cultures. It

appears that when the home, school, peer group, and larger community are similar, the impact of interventions on children and youth is greater (Epstein, 1987) .

Parent involvement programs have a positive impact on children's success in school. A wide range of such programs is being implemented by schools across the country. These programs include classes in parenting, strategies for supporting learning at home, and involvement of parents in school management, decision making, and classroom instruction. Some programs help parents become better home educators and stress behaviors such as monitoring children's homework, providing academic assistance or tutoring, and reducing television time. These programs train family members to help their children develop good study habits and high expectations. Empirical results suggest that parent involvement in specific learning strategies has a strong and positive effect on children's academic performance (Lee, Bryk, & Smith, 1993).

Other programs involve families directly in school management and choice and encourage parents' actual presence in the school. Still others provide a host of services to families and children, including home visits, job training, career counseling, health care, mental health, and social support services. Parent involvement programs increase parents' positive investment and engagement in their children's learning, which in turn promotes children's success in school. Families that are involved in their children's school experiences and demonstrate caring and high academic, moral, and social expectations increase the likelihood that their children will be educationally resilient.

Peer Group

After the family, peers are the most important source of support, providing children and adolescents with a sense of being cared for, valued, and loved. Peer networks can facilitate the development of an individual and protect against stress by providing a stable and supportive source of concern. Student achievement is a product not only of a child's cognitive ability, but

also of school climate, family values, and practices, and the social networks of peers with whom they spend time. Conversely, the peer group can inhibit positive educational outcomes by pressuring children and youth to engage in misconduct rather than productive educational tasks (Figure 1 specifies the adversities in the peer context; Table 1 shows protective factors identified in studies of peer group influence).

The responsiveness of youth to the attitudes, aspirations, and behaviors of their peers is illustrated by Anderson's (1990) case studies of African-American male youth. In these case studies, the youth were moving between two communities—one of low socioeconomic status and the other becoming middle class as a result of community gentrification. The adolescents appropriated the language, attitudes, and behaviors of the prevalent youth culture in each community. In the economically disadvantaged community, students displayed the more defensive physical postures and speech patterns that were characteristic of the youth in the community. In the gentrified community, the same youth exhibited more helpful acts in an effort to dispel perceptions of them as engaging in uncivil or criminal activities.

The power of peer influence is apparent in a variety of settings and circumstances. Boarding school students, for example, receive support from their friends if their families disengage. Peer counselors have been influential in reducing and preventing substance abuse. Children of divorced parents find respite in social networks where they can distance themselves from disrupted, stressed homes. Peer networks have a greater impact on the school performance of children of divorce than they do on children from intact homes. Children of divorce, in particular, look to school friends for care and companionship.

Peers also have a significant impact on students' self-perceived academic competence and attitude toward school. A peer group's attitude toward school is a significant predictor of group members' grades, achievement test scores, value placed on being a good student, and perceived competence. Students whose peers valued high achievement spent more time on

homework; finished more of their homework assignments; attended school more regularly; and were less often tardy or absent without permission.

Participation in the peer group itself influences learning, as does students' use of out-of-class time. Students' participation in extracurricular activities and social clubs, while not as powerful as some other contextual features, can contribute much to academic accomplishment if the activities are well-designed and well-executed. Opportunities to interact with students who have high achievement motivation, positive attitudes toward school, and a positive academic self-concept can be beneficial to students at risk of school failure. Mentoring programs, cooperative learning programs, cross-age tutoring, use of small learning groups, and extracurricular activities provide mechanisms for children and youth to develop positive peer relationships and to strengthen support networks.

Community

Figure 1 shows the well-documented adversities that occur within communities. Common sense suggests that communities affect their residents' sense of well-being, safety, acceptance, and worth. Health care organizations, child-care services, job training opportunities, religious institutions, and recreational facilities are some of the social organizations that can promote resilience. Communities with well-developed and integrated networks of such social organizations have fewer social problems. Many policymakers and educational reformers argue that when community institution such as urban school systems fail, their revitalization is dependent on the uniting of the entire community in a decisive effort to improve. The availability and cooperation among community institutions and organizations serve as protective factors in the community and mitigate against adversities (see Table 1).

Another protective factor is the expression of consistent social and cultural norms among community members and organizations. Such consistency helps children and youth learn what

constitutes desirable behavior. Opportunities for children and youth to participate as valued members of the community also serve as a protective factor.

Communities with high expectations for good citizenship provide protective mechanisms for residents, as shown in studies that explore the importance of cultural norms on student alcohol and drug abuse. In analyses of the effectiveness of community-based substance abuse programs available to African-American youth, researchers found that school-based clinics are only partially effective in reducing risk. The more successful ones provide more adult aid, concrete help on tasks, and opportunities for students to develop new interests and skills. Communities, moreover, can promote educational resilience by frequently and explicitly reinforcing positive social values. Families and schools can join communities in these efforts. For example, when communities engage in media campaigns that disparage drugs, promote graduation from high school, or stigmatize drinking while driving, they are communicating norms and values that are likely also to be promoted at home and school.

Supportive communities also offer opportunities for youth to participate in civic activities in meaningful ways. Community service projects involving youth provide such an opportunity. Elementary school students, for example, may develop a program to educate communities about the costs and benefits of recycling or environmental pollution.

Masten and others (1990) identified abstract beliefs in religious protective figures and relationships with members of the religious community as protective factors. Historically, religious beliefs have provided standards and expectations for good conduct for various ethnic groups and social classes.

Communities with high concentrations of economically disadvantaged families often lack a well-integrated network of social organizations for children and youth. The services provided to impoverished, deteriorating urban communities are often compartmentalized and fragmented. In their analysis of the impact of social policies on the quality of human resources

available to African-American youth, Swanson and Spencer (1991) emphasized the dual importance of finding ways to reduce risk and making opportunities and resources available in order to break the adverse chain reactions. Because schools have the most sustained contact with children and their families, several authorities hold that educators should consider the potential benefits of coordinating and integrating children's services across school and community organizations when designing their school improvement programs.

The linking of parent, school, and community resources through these programs helps amplify children and youth's sense of nurturance and support. One such example is coordinating school-linked services to provide ready access to medical, psychological, legal, transportation, and social services for students and their families. Although early evaluation results have demonstrated few beneficial outcomes from such programs, the early efforts at coordinated services often did not stress powerful instructional techniques in combination with access to the services. School-linked programs, if designed with attention to the resources of families, schools, and communities, seem likely to improve the overall quality of life for students and promote educational resilience.

In summary, communities promote educational resilience through the availability and integration of a variety of human services. Other resilience-promoting features include the explicit expression of prosocial values and ample opportunities for children and youth to contribute in important ways to community life.

School

Increasingly, researchers are examining the role schools play in promoting educational resilience. Like the family, peer, and community contexts, the school environment can be beset by adversities (see Figure 1). While a given school may not encounter all the adversities specified in Figure 1, the number and intensity of the adversities can result in reduced

achievement and social benefits for students. Table 1 presents protective factors that have been identified and which mitigate against the adversities present in the school environment.

Researchers have identified some consistent organizational characteristics of effective, high-achieving schools serving students at risk of school failure. These schools are smaller, more nurturing, more inclusive, and more engaged with families and the community than low-achieving schools. They are less apt to isolate children with poor academic skills, learning disabilities, or limited English proficiency in pullout programs or self-contained classrooms. They also tend to be more structured and orderly. Students are clear about behavioral expectations and often have a role in determining them. Both teachers and students have a sense of involvement and belonging, and there are active parent and community involvement programs. Collaborations among school, family, and community are at the very core of high-achieving schools (Lee, Bryk, & Smith, 1993; Teddlie & Stringfield, 1993). These characteristics of high-achieving schools are protective factors that promote educational resilience.

Wang and Oates (1996) are conducting an ongoing study comparing urban children from low-income families in schools that have implemented resilience-promoting strategies with children in schools with similar demographic characteristics that have not implemented such strategies. The resilience-promoting strategies include implementing a site-specific plan for school improvement; employing teams of teachers for planning and delivery of instruction; mobilizing community and school resources to support a comprehensive, coordinated, inclusive approach to service delivery; using an instructional management system with a focus on student self-responsibility; integrating instruction and assessment to provide individualized learning plans for students based on their needs, resources, and expediency; using research-based, effective instructional strategies; and involving families and communities in children's academic experiences, the cultural life of the school, and its management. Initial findings from this study show that children in the resilience-promoting schools have higher reading and mathematics

standardized test scores, higher aspirations for academic learning, better academic self-concepts, and clearer understandings of school and classroom rules.

Such studies describe effective schools serving large numbers of students at risk of school failure, but they also raise questions about what teachers can do in their own classrooms to promote students' achievement and healthy development.

Creating Classrooms that Foster Resilience

The remaining sections of this booklet describe resilience-promoting strategies that are nurturing and academically engaging. Some of the classroom strategies, such as the use of high expectations and active learning, are not new. All of these practices, however, are linked to positive educational outcomes. When teachers apply these strategies to educate children at risk of school failure, a new vision of children facing adversity can arise. This optimistic view of children features their life-affirming choices, energies, talents, and aspirations rather than their deficits, lack of resources, and past failures.

Teacher Attitudes and Expectations

Individual teachers may not be able to alter class size, increase funding, or remedy conditions that place children at risk, but they can have a demonstrable and positive impact on students through caring attitudes and high expectations.

Caring Attitude

Other than parents, teachers have more intensive contact with children than most other adults. Thus, teachers have opportunities to care for and support their students. Many educationally resilient children attribute their success, in part, to a caring or supportive teacher or other adult—someone who had high expectations for their success and believed in, listened to, encouraged, and praised them. Children and youth who cite the influence of teachers and others (e.g., coaches, counselors, custodians, librarians,) recognize that these mentors respected and listened to them. Students felt safe confiding in them. Werner and Smith (1989) found in their

study of children of Kauai that "among the most frequently encountered positive role models in the lives of [these] children, outside the family circle, was a favorite teacher. For the resilient youngster a special teacher was not just an instructor for academic skills, but also a confidante and positive model for personal identification" (p. 162).

Effective resilience-promoting teachers frequently and actively demonstrate their caring by showing interest and concern for students, expressing respect, and holding their students to high expectations. As described below, teachers' caring is shown directly through their academic and social interactions with children and indirectly through their classroom structure, curriculum, and instructional practices.

High Expectations

Teachers' assumptions about their students' capabilities affect how they relate to students and conduct their classes. Teachers who believe that all children can learn and contribute to society hold them to high academic and citizenship standards. Holding high expectations may be easier for the teacher if the child is well behaved, industrious, and open to advice or correction. But what if a child is resistant, disruptive, or sullen? Teachers need to examine how a child's behavior affects their feelings about that child's academic potential. Teachers should not assume that disruptive children cannot learn. By holding difficult children to high expectations, teachers demonstrate faith that all students can learn and promote students' engagement with the content and the classroom activity. Teachers need to keep in mind the benefits of high expectations for all students, not just the talented and compliant, as they develop different strategies for reaching students who might appear to be less receptive to their efforts.

Instructional Practices

Teachers cannot promote resilience with positive attitudes and high expectations alone. Caring and belief in student potential must be combined with powerful, research-based,

instructional practices that promote educational resilience and facilitate learning for students at risk of school failure.

Facilitating Student Learning

Effective classroom teachers function more as facilitators of learning than transmitters of knowledge. Those who persist in delivering content and treating students as passive vessels neither encourage children to take responsibility for their own learning nor demonstrate the conviction that they can do so, thereby contradicting what we know about promoting resilience. Instead, students benefit most from classrooms where teachers give students greater autonomy and facilitate their active engagement with learning.

Effective facilitators use practices that support children's active inquiry, experimentation, discussion, reflection, application, and evaluation and engage them in the acquisition and construction of their own knowledge. As facilitators in learner-centered classrooms, teachers can observe individuals and groups of students as they interact and learn. They can intervene, when necessary, to assist students by modeling appropriate behaviors and problem-solving strategies, asking higher order questions, and identifying additional or more appropriate resources. In cases where students find the level of content difficult, teachers may relate the new material to students' present knowledge rather than revert to explaining it repeatedly.

When the teacher acts as a facilitator, students learn to direct their own learning. By making students increasingly responsible for their own learning, teachers increase students' sense of personal agency—a characteristic of educationally resilient students. A high level of student-directed activity and engagement is characteristic of classrooms in which the teacher acts as a facilitator. Students organize their own time, identify resources for learning, and demonstrate what they have learned. Students in these classrooms are semi-independent learners and are more likely to become educationally resilient. In these classrooms, learning is a product of

students' prior knowledge, interests, and talents and the quality of resources and guidance provided by teachers.

Responding to Student Diversity

Student diversity encompasses a number of characteristics: linguistic, economic, ethnic, and racial backgrounds; gender; prior learning and school experiences; talents; interests; motivation to learn; lifestyles; and attitudes towards school. Respecting and responding to these many differences promotes the educational resilience of students. Using knowledge about student differences, teachers can choose appropriate curricula, employ effective teaching strategies, and design the most inclusive classroom environments in meeting students' learning needs and abilities.

Teachers can use students' prior knowledge and experiences to make new content comprehensible. A history teacher, for example, may ask students to define and discuss what concepts like freedom mean to them before studying the status of African Americans during and after the Civil War. Similarly, an English teacher may ask students to write about their own families before reading a novel that describes family life in a different culture. The teacher can then tie new content to the students' prior knowledge and experiences, thus integrating the new knowledge with what students already know.

Teachers who effectively respond to students' academic differences use many strategies to adapt instruction (Wang, 1992). For instance, they vary how new information is presented and support problem solving. They modify the amount of time they spend on review, vary the number of examples they use to explain or clarify, and tailor their use of summaries and points of emphases. They adapt the level, form, and number of questions they ask as well as their responses to correct and incorrect answers. Finally, these teachers also use a variety of assessment formats that allow children with diverse talents and abilities to demonstrate their

knowledge and skills. Projects, exhibitions, portfolios, multiple choice tests, and performances are all different formats for assessing student knowledge (McCombs & Whisler, 1997).

In summary, resilience-promoting strategies that are responsive to student diversity include: recognizing the ways students can differ; building upon students' backgrounds and prior knowledge; tailoring classroom instructional practices to student abilities, interests, and experiences; and choosing assessment formats that are appropriate to students' background and prior learning.

Teaching Students Strategies for Learning

Students who plan, organize, and monitor their learning are more successful. They learn more and remember what they have learned for longer periods of time. Some children develop these planning, organizing, and monitoring strategies spontaneously, whereas others acquire these "meta-cognitive" skills through instruction. Students who apply metacognitive strategies are able to plan better, monitor their own progress, correct poor or faulty steps in their problem solving, and reflect on their own skills, accomplishments, and learning process. Among the particular skills students can learn are setting explicit learning goals, underlining key information, quizzing themselves about the content to be learned, organizing new material by conceptual category, and help-seeking behaviors such as knowing when to ask for assistance. The development of learning strategies and help-seeking behaviors results in students becoming more independent learners which contributes to their educational resilience.

Classroom Climate and Organization

Well-managed classrooms promote educational resilience by guaranteeing that time for learning is a classroom priority. Children placed at risk of school failure benefit when learning time is maximized. Classrooms with fewer interruptions and less time spent on management and logistics such as announcements and collecting work have higher achievement than classrooms that do not guard time set aside for students' academic pursuits.

Well-managed classrooms also have clearly understood rules and procedures. In these classrooms, teachers may invite students to participate in determining classroom rules, procedures, and strategies for conflict resolution. As a result of participating in self-governance, students not only become very familiar with rules, but also develop social skills, an increased sense of autonomy, and responsibility to others, all of which promotes educational resilience and learning success. In addition, democratic classrooms emphasize the importance of students and teachers respecting each other's activities, values, and humanity.

Classroom organization can promote educational resilience. Involvement in cooperative learning, small group work, peer tutoring, cross-age instructional activities, and mixed ability groups benefit most children, especially those placed at risk of school failure. In these cooperative, supportive classrooms, students develop social skills, bolster their self-concepts, acquire new problem-solving strategies, and learn to be accountable for their work.

The physical arrangement of a classroom can also be resilience promoting. A classroom in which rows of desks or tables can be easily re-arranged so that children may communicate and work together conveys that students can learn from one another. Teachers may want to set aside classroom areas as learning centers. While the teacher works with six or seven students on a group project, other students may work at different learning stations, taking on responsibility for their learning. Flexible classrooms where students can learn from each other and work independently support a teacher in her role as facilitator.

Educational resilience is promoted through well-managed classrooms where learning is a priority; cooperative, inclusive, and democratic practices contribute to a resilience-promoting climate; and organization is flexible enough to support students' independent learning. These features of the classroom influence how students learn and behave. They can encourage or discourage autonomy, cooperation, and academic pursuits and promote or hinder the development of educational resilience.

Curriculum

A rich, rigorous, learner-centered curriculum provides conditions that foster educational resilience. In particular, individuals expand and modify their old knowledge base by integrating new facts, principles, theories, and other types of information with it. Individuals also have to learn when and how to apply this knowledge in order to solve problems. To be resilience-promoting, the curriculum must provide not only facts but also experiences in solving complex, real-life problems.

Many children placed at risk of school failure have suffered from a lack of exposure to rigorous academic curricula and have not been expected to master higher level thinking skills. The heavy emphasis on drill and practice that characterizes typical remedial curricula does not provide students with rich content that can be used to advance their problem solving, decision making, and application of knowledge. Exposing students to rich content in a variety of academic subjects as well as art, drama, music, community service, apprenticeships, and sports activities provides many opportunities for students to develop new connections to prior knowledge. Students may then apply their new knowledge in diverse settings, thereby integrating and applying what they have learned. Thus, the rigor and richness of the content and its application to authentic tasks can promote educational resilience.

In the learner-centered classroom, the curriculum is often advanced-not remedial-and is approached in depth and from multiple perspectives. It is often interdisciplinary and multicultural, weaving together meaningful content and ways of thinking from different disciplines in order to capture the complexity of real-world problems, introducing as many perspectives as possible, and making close connections between in-school and out-of-school learning experiences.

A rich, varied, and challenging curriculum provides a vehicle for students with diverse backgrounds and learning needs to develop procedural knowledge that is resilience-promoting.

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Inspired by genuine interest in curriculum with personal significance, students are more apt to learn. Curricula based on authentic learning experiences also build students' confidence in becoming effective, productive, and fulfilled members of society.

Programs and Reforms that Build Resilience

During the past decade, research-based knowledge about how schools promote resilience has increased. Using this knowledge, educational programs and reforms can be analyzed to determine their resilience-promoting features. Many types of interventions may foster resilience—including those that focus on classroom instruction, school organization and delivery of services, and whole-school reforms. These interventions promote resilience by creating conditions that result in positive student outcomes, such as increased learning, prosocial behaviors, healthy physical development, increased use of metacognitive skills, positive self-concept, and a positive attitude toward learning.

Table 2 presents 11 educational programs and reforms1 and their resilience-promoting features. The educational programs are specified in the columns and the rows are resilience-promoting features. An "x" indicates that a program has a particular feature. The 41 resilience-promoting features in Table 2 were culled from the research literature on resilience and effective schools, practices, and policies. These features were grouped according to school climate and organization; classroom climate and organization; teacher attitudes and expectations; instructional practices; and curriculum.

The programs were selected to represent a range of educational reforms. They include pre-K, elementary, middle school, and secondary school programs. Some deliver science, reading, and writing content, whereas others develop higher order thinking and self-directed learning skills. Analysis of the reforms identified six dimensions of resilience-promoting programs. These dimensions are described below.

Programs Targeted at Children At Risk of School Failure

To promote the well-being of children who are at risk of school failure, school districts need information on which reforms are likely to foster educational resilience. Programs that target students at risk of school failure are more likely to address a range of student needs, including academic attainment, social skills, and physical and psychological well-being. Eight of the programs in Table 2 were designed for children at risk of school failure—Accelerated Schools, School Development Program, 20/20 Analysis, Adaptive Learning Environments Model, Community for Learning, Head Start on Science, Reading Recovery, and Higher Order Thinking Skills. The number of resilience-promoting features in these programs ranged from 13 to 31. The three programs that did not focus on students at risk had 10, 26, and 18 resilience-promoting features (Core Knowledge Series, Coalition of Essential Schools, and the National Writing Project).

Comprehensive School Reform vs. Narrower Interventions

Because a program is designed for children at risk does not indicate in itself whether or not it will be resilience-promoting. What does matter is the breadth of the program. Narrowly focused programs that increase subject matter skills, for example, or teach computer literacy may incompletely address the needs of the child. To establish whether a program is resilience-promoting requires careful examination of the program components, the role and expectations of teachers, instructional practices, curriculum content, the delivery of services to students with greater-than-usual instructional needs, and the classroom and school organization and climate.

During the 1990s, school restructuring received much attention from the research, policy, and practitioner communities as a means of upgrading U.S. schools. When school restructuring is limited to changes in school governance, policy making, and the creation of a site-based improvement plan, its effect on students may be indirect and less pervasive than

whole-school reforms. Analogously, when reforms are limited to instruction in a single content area and use a particular instructional strategy or a highly focused curriculum, they may cause changes in narrowly targeted student outcomes, but fail to address the range of co-occurring risks that confront children at risk of school failure. Whole-school reforms are more likely to be resilience-promoting.

Of the 11 programs reviewed, five are whole-school reforms (i.e., Accelerated Schools, School Development Program, Coalition of Essential Schools, Adaptive Learning Environments Model, and Community for Learning). These five programs have 25 to 31 resilience-promoting features, with an average of about 28 features. Those six programs that are not whole-school reforms have 10 to 22 resilience-promoting features, and on average have 17 features (Core Knowledge Series, 20/20 Analysis, Head Start on Science, Reading Recovery, National Writing Project, and Higher Order Thinking Skills). Whole-school reforms typically embrace several influences, including powerful instruction, challenging curricula, effective and efficient classroom management, positive classroom and school climate, and organizational features. By advancing on so many fronts, whole-school reforms are likely to address the school and instruction-related problems that face children at risk of school failure. Many schools that serve large numbers of children who are at risk are ineffective and most likely to benefit from broad, whole-school reform.

Direct Influences on Student Learning

A child's learning is influenced most by his or her psychological characteristics (e.g., ability and prior achievement) and the features of his or her home and classroom (Wang, Haertel, & Walberg, 1994). These influences are powerful because they are experienced directly by the individual and, in the case of the home and classroom, are encountered almost daily. Students learn more when their day-to-day environments are educationally supportive and challenging.

Some resilience-promoting programs influence student learning directly. They foster psychological attributes associated with educational resilience, such as self-regulated learning, interpersonal skills, problem solving, and literacy and numeracy. Other resilience-promoting programs offer powerful classroom instructional practices to improve student learning. These practices include maximized learning time, direct instruction, adaptive learning strategies, and a cooperative, goal-directed classroom climate. All the programs in Table 2 employ research-based practices, but vary in the particular practices they employ. Still other resilience-promoting programs influence the home and family environment. Six of the 11 programs have family involvement components (Accelerated Schools, School Development Program, Coalition of Essential Schools, 20/20 Analysis, Community for Learning, Head Start on Science). The more comprehensive programs foster desirable psychological attributes, create classrooms with positive climates and effective instructional practices, and cultivate family involvement and an educationally supportive home environment.

Meeting Children's Basic Needs

In today's world, many children fail to have their needs met. They live in single-parent families, often with single mothers. When children do have two parents, both are typically employed. These circumstances limit the experiences and time that families share. In addition, many children live in impoverished and crime-ridden neighborhoods and attend schools that fail to provide a high-quality education. The constraints in these different environments can place children at risk. Resilience theory stresses the interdependence of the home, classroom, school, peer group, and community contexts. The resources and influences in each of these environments can be combined to overcome limitations in any single context and to better meet children's needs.

Three key program features that attend directly to meeting the needs of the whole child are: (a) school-linked, coordinated services; (b) a schoolwide orientation to problem prevention;

and (c) inclusive practices. Of the 11 programs reviewed, only three included school-linked services (School Development Program, 20/20 Analysis, and Community for Learning). Five programs had a prevention orientation (School Development Program, 20/20 Analysis, Adaptive Learning Environments Model, Community for Learning, and Head Start on Science). And inclusive practices were incorporated in five programs (Accelerated Schools, School Development Program, 20/20 Analysis, Adaptive Learning Environments Model, and Community for Learning).

Children's needs can be met with a combination of home, school, neighborhood, and community services. A program whose primary goal is meeting the needs of the whole child is James Comer's School Development Program, which is based on several premises, including the African proverb, "It takes a whole village to raise a child." The School Development Program creates a psychologically nurturing school climate that encourages parents and school staff to promote student academic and social development. They act on the belief that student outcomes are a product of school climate and instruction, not differences in students' backgrounds. The School Development Program illustrates how frequently fragmented medical, social, and educational services can be coordinated to improve the life chances of children and families at risk.

The Community for Learning program, located at the Laboratory for Student Success, the mid-Atlantic Regional Education Laboratory at Temple University Center for Research in Human Development and Education, is another whole-school reform that stresses community-school-home connections. Its strategies to increase parent and community involvement include biweekly topical workshops for parents and community members; extension services by neighborhood agencies that provide family counseling, adult education, job training, and social outings; and a collaborative program with the Philadelphia Free Library to encourage literacy.

Students' Sense of Belonging

Teachers not only impart knowledge and skills to children, but also serve as confidants and role models. Frequent opportunities for students to interact socially with teachers enhance students' sense of belonging. In addition to the presence of caring teachers, a cooperative, democratic classroom and school based on shared goals and free of friction and favoritism also create a sense of belonging.

A number of features reveal whether a nurturing classroom and school climate are stressed in programs and reforms. At the school organization level, these features include the use of inclusive practices and small educational units (e.g., small school size, small class size, and schools-within-schools). Other indicators include the use of peer-based learning, small instructional groups, mentoring, and other collaborative learning activities. Programs that promote a sense of belonging also attend to teachers' holding high expectations of all students and listening and responding to children's needs. Of the 11 programs and reforms reviewed, only the Coalition of Essential Schools stresses both small school and class size, although several programs employ small instructional groups or peer-based learning activities (Accelerated Schools, School Development Program, Coalition of Essential Schools, Adaptive Learning Environments Model, Community for Learning, Head Start on Science, and Higher Order Thinking Skills). Five programs employ inclusive schoolwide and classroom practices (Accelerated Schools, School Development Program, 20/20 Analysis, Adaptive Learning Environments Model, and Community for Learning). Most of these programs encourage frequent academic and social interactions with teachers. The expanded roles of teachers and school staff to care for an nurture children are particularly apparent in the School Development Program, the Coalition of Essential Schools, and the Community for Learning program. While most of the programs reviewed included language that "all children can learn" or of the importance of "high expectations" for all students, few truly extend the role of teachers as nurturing caregivers.

Adapting Curriculum and Instruction

Resilience-promoting programs provide challenging, relevant curricula and effective instruction tailored to students' academic and cultural needs. To promote educational resilience, students must have opportunities to acquire advanced subject area knowledge and skills. Thus, programs with a narrow focus on basic skills and remediation, or literacy alone, are not resilience-promoting. In addition, instructional practices that are not adapted to students' learning needs (e.g., inappropriate pace, inappropriate difficulty level, disregard for students' prior academic placements and curricular and instructional histories) will neither advance students' knowledge efficiently or effectively, nor promote educational resilience.

The following resilience-promoting features adapt educational activities to children's needs: individual learning plans; adaptive instructional strategies; multicultural and intellectually challenging curricula tailored to children's cultural backgrounds and academic needs; and use of frequent assessments in a variety of formats. Ten of the 11 programs used adaptive learning strategies (only Core Knowledge did not, but it focuses on curriculum, not instruction). Eight programs described the use of individual learning plans (Accelerated Schools, School Development Program, 20/20 Analysis, Adaptive Learning Environments Models, Community for Learning, Reading Recovery, National Writing Project, Higher Order Thinking Skills). Most of the 11 programs reviewed do adapt curricula to students' academic backgrounds, but fewer adapt curricula to students' cultural backgrounds. Only three programs did not emphasize a rich and challenging curricula (20/20 Analysis which is a service delivery reform; Reading Recovery which focuses on remediation; and the School Development Program which focuses on use of classroom time, curriculum and assessment alignment, and content coverage, but does not address the rigor of the curricula). Seven of the programs reviewed use a range of assessment formats (Accelerated Schools, School Development Program, Coalition of Essential Schools, 20/20 Analysis, Adaptive Learning Environments Model, Community for Learning, and Reading

Recovery). And eight programs attend to whether their assessments are aligned with their curricula (Accelerated Schools, School Development Program, Core Knowledge, Coalition of Essential Schools, 20/20 Analysis, Adaptive Learning Environments Model, Community for Learning, and Reading Recovery). Thus, most of the programs examined do foster educational resilience through their adaptation of curriculum and instruction to children's needs and backgrounds. However, in some programs, such as the Adaptive Learning Environments Model, adaptation of educational activities and content is fundamental to the program effort, whereas in others adaptation to children's needs is acknowledged, but the program's design does not emphasize the adaptive process.

Conclusion

Much work remains to further our understanding of educational resilience and how to promote it. Teacher education and professional development need to educate new and experienced teachers in resilience-promoting methods and strategies. Resilience-promoting school programs and reforms that connect family, school, and community need to be strengthened and widely implemented to significantly foster healthy development and educational success. Teachers and other practitioners can re-examine their basic attitudes and assumptions to recognize and trust the potential of every child, especially those placed at risk of school failure. They can also implement powerful instructional techniques that are linked to student learning and curricula that are infused with rich academic content relevant to students' diverse backgrounds.

Children's educational resilience cannot be created merely by a set of activities or strategies. Educational resilience will be enhanced by teachers adopting a new vision of their students as individuals who can make choices, acquire knowledge and skills, and achieve a fulfilling life. With this vision in mind, teachers can empower students through caring, high expectations, and implementation of best educational practices and a rigorous curriculum.

Narrow school reforms and interventions are unlikely to promote educational resilience, especially among children facing multiple life adversities. However, by uniting the resources of the school, family, and community, children facing significant adversities can overcome obstacles and achieve success. Increasingly, educators can identify and create successful pathways that lead to educational resilience among their students. By understanding the role that protective factors play in buffering children against adversities, educators can design classroom and school environments that foster learning, psychological well-being, and healthy development. Educators can extend these understandings into the home, neighborhood, and community contexts as well. Research has revealed ways to magnify the features of each of these environments so that healthy development and learning is promoted.

Resilience research has provided insights on how children in stressful life circumstances beat the odds and create satisfying, productive lives. For educators and other human service professionals, educational resilience suggests the potential benefits of early experience, mitigating stressful life circumstances, and establishing protective factors in communities, homes, peer groups, and schools. Children's capacity to become educationally resilient can be expanded by mobilizing the latent energies and resources available in these environments. The use of these resources amplifies the possibilities of children's healthy development, and adaptation to and recovery from stressful life circumstances. The concept of educational resilience reminds us that children's lives can be healed through care, loving and educationally supportive families and friends, community resources, and educational activities that are well-designed and executed. Alterable environmental conditions can fortify students to persist through endemic difficulties en route to educational resilience and a successful adult life.

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Figure 1

Learners' Contexts and Potential Adversities

Table 1

An Illustrative List of Protective Factors that Promote Educational Resilience Within the Family, School, Peer, and Community Contexts

Contexts	Protective Factors that Promote Educational Resilience
Family	**Family Resources** • Food, shelter, and basic needs • Connections to other resources • Transportation • Physical growth • Information • Learning opportunities • Behavioral models **Family Psychological Nuturance** • Self-esteem, self-efficacy • Mastery motivation • Academic expectations • Involvement in programs and courses that advance skills **Family Environment** • Strong relationship with adult (not always parent) • Absence of serious family discord • Family warmth • Family cohesion • Children perform chores to help family • Orderly household environment
School	**Caring Teachers** • Committed relationships between students and teachers • High expectations for all students • Student mastery of new experiences • Promotion of student self-concept and self-esteem • Role-modeling of problem-solving and prosocial behaviors **Curriculum and Instruction** *Curriculum Adaptation to Student Diversity* • Teacher sensitivity to students' cultural and intellectual diversity • Culturally-relevant texts and materials • Universal themes to make content more accessible • Adaptation of curriculum content and instructional strategies to ensure student learning • Prerequisite content instruction to overcome students' knowledge deficits • Opportunity to learn advanced content and higher order thinking skills • A motivating context for learning that recognizes differences in students' backgrounds, interests, and, prior knowledge • Curriculum articulation and organization

Table 1 (Cont'd)

An Illustrative List of Protective Factors that Promote Educational Resilience Within the Family, School, Peer, and Community Contexts

Contexts	Protective Factors that Promote Educational Resilience
School (cont'd)	*Instruction* • Maximized learning time • Ample opportunities for students to respond during instruction • Student engagement • Student participation in goal-setting • Metacognitive and self-regulated learning activities • Frequent and high-quality teacher and student interactions • Use of frequent assessments aligned to content • Effective classroom management <u>School Organization and Climate</u> • Smaller educational units which create a sense of involvement and belonging • Safe and orderly school atmosphere that rewards student achievement • Strong leadership by principal • Active parent involvement program • Inclusive classrooms in schools • Availability of school-linked, coordinated services • Presence of a preschool program that encourages a positive orientation toward school and competency in school activities
Peer	<u>Peer Support</u> • Presence of peer support and caring toward students facing stressful life circumstances • Positive attitudes of peers toward educational activities • Engagement of peers in prosocial constructive behaviors that foster good health, academic achievement, and responsible citizenship • Cooperative learning programs, mentoring, crossage tutoring, use of small learning groups, and extracurricular activities
Community	<u>Availability of Resources</u> • Access to a variety of human services including medical, psychological, legal, social, financial, religious, recreational, and transportation • Prevention-oriented, school-linked services addressing multiple co-occurring risks of students and families • Opportunities for children and youth to participate in meaningful community activities <u>Community Culture</u> • Emphasis on public safety • Consistent, frequently expressed prosocial norms and values • Expectations for schooling success of children and youth • Demand for quality education offered by neighborhood schools

Table 2

Resilience-Promoting Attributes of Educational Program and Reforms

Program Dimensions	Resilience-Promoting Attributes	Accelerated Schools	School Development Programs	Core Knowledge Series	Coalition of Essential Schools	20/20 Analysis	Adaptive Learning Environments Model	Community for Learning	Head Start on Science	Reading Recovery	National Writing Projects	Higher Order Thinking Skills
Target: Children At Risk		x	x			x	x	x	x	x		x
School Climate and Organization	Inclusive schools	x	x			x	x	x				
	Structured and orderly schools	x	x									
	Reduce effects of relocation											
	Coordinated school-linked services		x			x		x				
	Family involvement	x	x	x	x	x		x	x			
	Community involvement/mentoring	x	x		x	x		x	x			
	Small schools				x							
	Site-specific improvement plan	x	x		x	x	x	x	x			
	Shared decision making (curriculum, instruction, governance)	x	x			x	x	x			x	
	Research-based effective educational practices	x	x	x	x	x	x	x	x	x	x	x
	Academically oriented school culture	x		x	x	x	x	x			x	x
	Incentives for student success				x							
	Encourage choice & completion academically demanding program	x		x	x		x	x			x	x
	Oriented to preventing problems		x			x	x	x	x			
Classroom Climate and Organization	Inclusive classrooms/de-tracked	x	x			x	x	x				
	Small class size				x							
	Positive classroom climate	x	x		x		x	x				
	Well managed classrooms	x					x	x	x			

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Table 2

Resilience-Promoting Attributes of Educational Program and Reforms (Cont'd)

Program Dimensions	Resilience-Promoting Attributes	Accelerated Schools	School Development Programs	Core Knowledge Series	Coalition of Essential Schools	2020 Analysis	Adaptive Learning Environments Model	Community for Learning	Head Start on Science	Reading Recovery	National Writing Projects	Higher Order Thinking Skills
Teacher Attitudes and Expectations	Caring teachers		x		x							
	High expectations for student learning	x	x	x	x		x	x	x	x	x	x
Instructional Practices	Facilitating student learning	x			x		x	x	x		x	x
	Active learning (learner-centered classroom)	x			x		x	x	x		x	x
	Maximized learning time	x	x				x	x		x		
	Direct instruction	x	x			x	x	x				x
	Adaptive learning strategies	x	x		x	x	x	x	x	x	x	x
	Whole-class instruction						x	x				x
	Small group instruction	x	x				x	x	x			x
	One-on-one instruction					x	x	x	x	x	x	x
	Peer-based learning activities	x			x		x	x	x			x
	Frequent, high quality academic and social interactions	x	x		x				x	x	x	x
	Metacognitive and student self-responsibility strategies					x	x	x	x	x	x	x
Curriculum	Multicultural curriculum	x		x	x							
	Appropriate to students' cultural background	x	x	x	x		x	x	x		x	
	Appropriate to students' academic background	x	x	x	x	x	x	x	x	x	x	x
	Challenging curriculum with rich content	x		x	x		x	x	x		x	x
	Attention to foundation of basic skills				x	x			x	x	x	
	Multiple assessment strategies	x	x		x	x	x	x		x		
	Individual learning plans	x	x			x	x	x		x	x	x
	Integration of content areas	x			x				x		x	x
	Relevant curriculum	x	x		x				x		x	
	Alignment of curriculum and assessment	x	x	x	x	x	x	x		x		

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The Laboratory for Student Success

The Laboratory for Student Success (LSS) is one of ten regional educational laboratories in the nation funded by the U.S. Department of Education to revitalize and reform educational practice in the service of children and youth.

The mission of the Laboratory for Student Success is to strengthen the capacity of the mid-Atlantic region to enact and sustain lasting systemic educational reform through collaborative programs of applied research and development and services to the field. In particular, the LSS facilitates the transformation of research-based knowledge into useful tools that can be readily integrated into the educational reform process both regionally and nationally. To ensure a high degree of effectiveness, the work of the LSS is continuously refined based on feedback from the field on what is working and what is needed in improving educational practice.

The ultimate goal of the LSS is the formation of a connected system of schools, parents, community agencies, professional organizations, and institutions of higher education that serves the needs of all students and is linked with a high-tech national system for information exchange. In particular, the aim is to bring researchers and research-based knowledge into synergistic coordination with other efforts for educational improvement led by field-based professionals.

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